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CENTRAL INTELLIGENCE AGENCY

INFORMATION FROM FOREIGN DOCUMENTS OR RADIO BROADCASTS

REPORT

CD NO.

COUNTRY	USSR	DATE OF INFORMATION	1947
SUBJECT	Geographic		
HOW PUBLISHED	Irregular periodical	DATE DIST.	14 Feb 1950
WHERE PUBLISHED	Bonn, Germany	NO. OF PAGES	6
DATE PUBLISHED	Aug 1948		
LANGUAGE	German	SUPPLEMENT TO REPORT NO.	

THIS IS UNEVALUATED INFORMATION

SOURCE Erdkunde (Geography), Archiv für Wissenschaftliche Geographie (Archives for Scientific Geography), Vol II, No 1-3, 1948, published by Ferd. Dümmlers Verlag.

GEOGRAPHY IN THE SOVIET UNION

E. Thiel

By virtue of Soviet political and international philosophy, Soviet geography is divided into two distinct branches, physical geography and economic geography. Soviet physical geography concerns itself with all natural and physical phenomena but excludes man. In Soviet economic geography, nature is pushed aside even though nature provides the background for every human activity. Man, it is said, is independent of nature and his progress depends on the possession and development of production forces and means of production. Even such an eminent geographer as L. S. Berg, who formerly held other views, has adapted himself to this official dual concept of geography. Berg's outstanding work The Geographical Zones of the USSR, published in 1931, still depicted the relation of man to nature; by 1938, his book The Nature of the USSR reflected a purely physical presentation in which man played no part.

However, this development does not appear to be conclusive. Except in the universities and in strictly scientific circles, a new (one might say old) movement is gaining impetus. In Russian, it is called "krayevedeniye," which may be translated as regional study. In a regional study, the geographical over-all picture reappears. The centers of this movement are the museums of the individual regions. It is their duty not only to represent the past but also to picture the present as well as the current development of their respective regions. Under the direction of a scientist aided by several assistants, geographic activity in this regional field is quite vigorous. The popular, but excellently edited, periodical Nasha Strana (Our Country) publishes much valuable geographical material.

The scientific geographer who wishes to study the Soviet Union intensively faces the task of correlating the two tendencies in Soviet geographical work, a task which is not always easy, but which must be done.

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Just as the state itself, so also is science strictly and centrally controlled. The Academy of Sciences USSR is the central and controlling authority over every scientific activity. It embraces and controls the entire field of natural sciences, even literature and the history of art. Its work is centered in the research institutes, which numbered 55 in 1945; in addition, it controls a number of experimental stations, observatories, and museums. The Academy is also the training center for selected advanced students, about 1,500 of whom work in the institutes. The personnel primarily active in the Academy has been estimated to number 10,000 together with their families.

The Academy of Sciences centrally controls all scientific work and coordinates all research work carried on in various parts of the USSR. It controls the correspondence of all scientific institutions with foreign contacts. It controls all exchange of information. In cooperation with other organizations, it annually sends out up to 60 expeditions with specific assignments in various parts of the country. Branches of the Academy in the eight largest republics participate in the expeditions. Advanced university students spend their vacations on these expeditions for practical training. The results and experiences of the expeditions are described not only in purely scientific reports but also in an annual volume for wide, popular distribution. The Kola Peninsula, the Arctic, Turkestan, and Kazakhstan have been favored areas for expeditions in recent years. Expeditions to Kola numbered 25 from 1834 to 1917, 608 from 1921 to 1937; more than 250 have been sent to the Arctic under the Soviet regime. The results of these expeditions have been scientifically noteworthy, sometimes even outstanding.

The primary objective of all the expeditions is the uncovering of the natural production forces of the USSR, for which purpose a special commission exists in the Academy of Sciences. How strongly the practical aspect in scientific work is accented in the Soviet Union is shown by the fact that, in addition to the facilities of the Academy and the universities, there were 804 research institutes with an army of 32,617 scientists in the USSR in 1939. These institutes are directly subordinated to the various ministries (People's Commissariats) and get their assignments from them. Thus, in 1939, the Ministry of Health maintained 262 institutes, the Ministry for Heavy Industry 198 institutes, the Ministry for Higher Education 104 institutes, etc. Even the trade unions and 20 institutes in 1939. Also worthy of mention is the large number of higher technical schools, which train engineers and specialists. In 1945, there were 700 such schools with 40,000 teachers and 525,000 students.

The universities, which are the centers for scientific research work along predominantly theoretical and academic lines, are few in number. At present, there are 30 universities with about 50,000 students in the Soviet Union; 11 of these are located within the RSFSR, 7 in the Ukrainian SSR, and the rest in the other republics. It should be mentioned that special higher schools exist for training doctors, agriculturalists, and foresters. As a rule, each university has faculties of mathematics and physics, biology, chemistry, geology, and geography. Frequently, the universities have special institutes of philosophy, literature, and history. Moscow, with 7,000 students and Leningrad, with 5,000 outrank all other universities in size as well as in equipment and quality of teaching. The study of geography in the USSR is centered at these two universities.

It is clear from what has been said that physical geography plays an unimportant role, is not a popular study, and is becoming less emphasized in the Soviet Union. Whatever study is made of it usually occurs in connection with related fields such as geology, botany, soil science, etc. Likewise, the expeditions cannot altogether ignore physical geography, and some information on the subject finds its way into the reports concerning them.

Economic geography, on the other hand, belongs to the favored sciences. The proper geographic distribution of production forces plays a decisive role in the setting up and carrying out of the five-year plans. Books dealing with problems in economic geography are, therefore, very numerous.

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There are two geographical institutes in Moscow, the institute of the Academy of Sciences and that of the university. The latter, which is called the geographical faculty of the university by the Russians, is divided into eight sections: physical geography, physical geographical synthesis, climatology, agroclimatology, geomorphology, regional economic geography, cartography, and stereophotogrammetry.

At this center of Soviet geography, a new eight-volume geography of the USSR is at present being prepared under the direction of the renowned geographers A. A. Grigoryev, G. D. Richter, and V. F. Vasyutin. It is to be published in 1950 by the Academy of Sciences as a part of the series, Geography and Geophysics.

The geographical faculty of the University of Leningrad consists of seven sections, and the following subjects are taught: physical geography; general geography of foreign countries; general geography, subdivided into geomorphology, meteorology, and hydrology; physical geography of the USSR, subdivided into its European and Asiatic parts; methods of physical geographical research; meteorological observation and meteorological service; history of geography; topography; economic geography of the Soviet Union; economic geography of the capitalistic countries; and cartography and geodesy.

Each section in Leningrad and Moscow has several chairs, in each of which as many as three professors, several docents, and several assistants work.

Physical geography occupies a more prominent position in Leningrad than in Moscow. Of the articles appearing in 11 numbers of the Leningrad geographic journal from 1937 to 1940, one half dealt with problems in geomorphology and only a quarter with problems in economic geography. The building occupied by the Geographical Institute in Leningrad suffered heavy war damage, but has been restored temporarily by its students.

Among the other universities, Tomsk University merits mention. As the oldest university in Siberia, it has accomplished a great deal in exploring that area, its geographical characteristics, minerals, ethnography, culture, and economy. The Geographical Institutes in Irkutsk and Vladivostok are well equipped to study their respective regions.

The city of Leningrad is of additional interest to the geographer because the Geographic Society, the Arctic Institute, and the Central Geophysical Observatory are located there.

The Geographic Society still has the services of the renowned geographer Leo S. Berg, who works closely with the geologist Edelstein. However, the importance of the society has been declining steadily since the Academy of Sciences has become the center of all research work. At the society's centennial celebration in 1945, its president, L. S. Berg, reported that its membership numbered 3,000 and that its branches in all member republics were still active.

The Arctic Institute, founded in 1920, is headed by B. G. Buynitskiy, who led the Sedov Expedition of 1937-1940. His associate is the aged, world-renowned oceanographer and climatologist V. Yu. Vize, who has laid the groundwork for Arctic research work in his many works. The equally renowned mathematician Otto Yu. Shmidt, a close associate of Vize, has been less active in recent years.

The Arctic Institute reigns over a gigantic organization. It includes a network of 77 hydrological-meteorological stations, scattered over the entire Arctic, and each permanently manned by four to five men. According to a recent report, there are 137 stations. To observe ice movements, the institute has an entire air unit (Fliegerabteilung) at its disposal. Of importance is the discovery by the institute that the Arctic, especially the portion to the north of the European part of the USSR, is gradually becoming warmer. The institute works closely with the Main Administration for the Northern Seaway, headed by Ivan Papanin, who became famous for his polar ice drift in 1937-1939. The institute furnishes most

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of the information concerning passage through the Bering and Kamchatka current reports concerning the status of the ice.

The Geophysical Observatory in Leningrad is subordinated to the Hydrological-Meteorological Central Bureau in Moscow but enjoys full independence in its work. It consists of several divisions, of which the climatic division is the best known. At present, a climatic atlas of the USSR, which is to consist of 240 charts is in preparation. With its numerous buildings and several hundred inhabitants, the observatory forms a small settlement. The 200 meter high tower permits continuous observation of air levels up to that height.

The Institute for Cartography and Geodesy in Moscow is the cartographic center in the Soviet Union. The two-volume Great Soviet Atlas was compiled there. The hypsometric map of the European part of the USSR in scale 1:1,500,000 was an especially good work. In 1946, another great atlas, which represents the entire USSR in scale 1:1,000,000, was completed.

The work of the Quaternary Geological Commission for Exploration of the Permafrost Area, both in Moscow, are of general geographical interest. The results of the work of the former are summarily presented in the book The Glacial Period in the Territory of the USSR by Gerasimov and Markov (462 pages, Moscow, 1939). An outstanding book on the permafrost area is the volume by Zumgin and Demchinskiy, The Permafrost Area (238 pages, Moscow, 1940), which for reasons of comparison also cites the permafrost area in North America.

A survey of the research work in the Soviet Union reveals a multitude of individual projects. Likewise, the number of scientific journals is large. But, of a total of 600 scientific journals, only ten deal with geography, and of these several deal only with regional geography. It almost seems as if Soviet science is unable to arrive at over-all studies under the pressure of individual projects. For that reason, the eight-volume geography of the USSR mentioned above is awaited with great interest.

In view of the lively research work and the mass of individual publications in the Soviet Union, it is surprising how little foreigners know about the USSR, how little geographic representation and research work is being done. A voluntary or involuntary isolation of the Soviet Union, the great difficulty in following the confusing mass of material, as well as language difficulties may be the main reasons for the lag.

Traditionally, Russian and German geographers worked closely together. Until 1933, German geography served as a source of information on Russian geography. After 1933, however, material from the Soviet Union became increasingly scarce and finally ceased altogether. Thus, the intermediate role played by German geography ended. Soviet science, including geography, began to use the English language as a vehicle for transmission of its more important works to the world.

Foreign interest in the Soviet Union has increased steadily. In England and the USA, special institutes have been created to study the Soviet Union and to attempt to represent, understand, or to oppose the Soviet social experiment. Books published by these institutes about the Soviet Union emphasized the economic and social, but concerned themselves little with the geographic aspects of the country. More and more direct use of Russian sources is being made by utilizing the numerous emigrants of World War I. World War II brought about an increased interest in the Soviet Union. In 1944, the book The USSR, a Geographical Survey by Gregory and Shave (636 pages, London, 1944) appeared in England; it was reprinted for USA readers in New York in 1945. In 1946, Alfred Fichelle's book Geographie physique et economique de l'URSS (223 pages, Paris, 1946) was published.

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GEOGRAPHY IN THE SOVIET UNION

Supplementary Report

W. Leimbach

Thiel has pointed out that German geographers lost contact with Russian geographers. With the loss of the research libraries in Konigsberg and Breslau, it is difficult for German geographers to work directly from Russian-language sources. Nevertheless, the announcement in July 1947 of the Offentliche Wissenschaftliche Bibliothek (Public Scientific Library) in Berlin that the Academy of Sciences intended to resume the exchange of books with Germany was warmly welcomed.

That much within the USSR is in a state of flux is illustrated by the changes in the administrative structure of the RSFSR. On 1 May 1940, there were 30 oblasts in the republic; on 28 June 1947, the number had increased to 47, not counting the Tuva Autonomous Oblast, which was formed when the 166,000-square-kilometer area of the former Tuva People's Republic was incorporated into the Soviet Union. Knowledge of current administrative structure changes is important because Soviet scientists often use administrative unit boundaries to define the field of their research. Failure to take such changes into consideration may lead to misunderstanding and erroneous conclusions. For example, until 1946 Sakhalin Oblast consisted only of the northern half of Sakhalin Island; early in 1947, however, the southern half of the island, which for a short time after its seizure from Japan had been designated as Yuzhno-Sakhalin (South Sakhalin) Oblast, was united with the northern, and Sakhalin Oblast comprised the entire island.

Geological exploration can aid the study of the physical geography of the USSR. In 1938, West Siberia and vast areas of East Siberia and western Turkestan (Kara Kum and Ust'-Urt) had not been explored. After World War II, geological exploration was intensified for the purpose of finding and investigating mineral deposits. In 1947, the Arctic Institute explored Taymyr Peninsula. In the same year, the Geographical Institute of the Academy of Sciences in Moscow sent out more than 40 groups and the Academy of Sciences of Uzbekistan in Tashkent sent out 37 groups. The most important of the Uzbekistan groups was the one assigned the task of surveying the route of the several-hundred-kilometer-long Kara Kum Canal, which is to provide water from the Amu-Dar'ya River for irrigating vast areas of western Turkestan and will effect topographical changes.

The main task in regard to mineral deposits is no longer discovery but geological investigation. Coal reserves of the A+, B+, and C- classes were estimated at 1,654 billion tons in 1938. It is erroneous to think, however, that large quantities of coal could be mined at will from these reserves. Actually, mines often must be shut down because geological investigation has not made sufficient progress or because they were opened prematurely.

Production depends also on other circumstances. With the destruction of the Donets Coal Basin during World War II, the Kuznetsk Basin, with production of almost 28,000,000 tons of coal in 1946 and anticipated production of almost 31 million tons in 1947, became one of the leading producing basins in the Soviet Union. Kuznetsk Basin coal reserves of the A+ and B- classes were estimated at 1.5 billion tons in 1938.

In the European part of the USSR, industries are being restored at the same places where they were destroyed during the war. This is true of the Donets and Moscow coal basins and also of the Krivoy Rog Iron Ore Basin. Tin is the only nonferrous metal in short supply in the Soviet Union.

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Where coal is lacking for industry, as in western Turkestan and the Transcaucasus, giant hydroelectric power plants are being built. For example, a dam is being built over the Kura River at Mingechaur near Yevlakh and another is being built over the Syr-Dar'ya River at Farkhad above the point of confluence of the Chirchik and the Syr-Dar'ya. Each plant built in connection with these dams is to have a capacity of a million kilowatts.

In regard to oil, it is noteworthy that although the proportional part of production from the Apsheron Peninsula (Baku) was to have declined upon the development of the "Second Baku" in the Ural-Volga area, Baku still produces most of the oil in the Soviet Union. This is due partly to the fact that deep boring (down to 3,946 meters) in the apparently exhausted Buzovny-Mashtagi field brought in producing wells.

In the agricultural field, the increase in land devoted to feed growing is remarkable. Almost 25 percent of cultivated land is devoted to this purpose, whereas only 2 percent was so used in 1913. In the new Soviet territory in eastern Poland and the Baltic countries, collectivization has produced landscape changes by introducing large-scale farming.

Soviet forestry work has similarly altered the landscape. The reforested area has increased from 6,900 hectares in 1939 to 115,000 hectares in 1946. Reforestation is being emphasized especially in the Ukraine.

Population changes resulted from the devastation of war. Of 3,400,000 peasant homes destroyed in the Ukraine, 520,000 had been rebuilt up to July 1947. However, rebuilding is according to the kolkhoz pattern, and the old peasant villages will not reappear. In 1946, 60,000 Armenians returned to Soviet Armenia from other lands. In May 1947, an Armenian convention in New York demanded of the UN that Armenian-settled East Anatolia be added to Soviet Armenia.

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